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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
SHAH, CHIRAG G

ART UNIT	PAPER NUMBER
2664	16

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *5/11/04* .

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-4 and 10-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *5-9 and 14-16* is/are allowed.

6) ☒ Claim(s) *1-4 and 10-13* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☒ Interview Summary (PTO-413) Paper No(s). *16* .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1-4 and 10-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee

(U.S. Patent No. 6,122,283) in view of Grittins et al (U.S. Patent No. 5,638,363).

Referring to claims 1, 2 and 4, Lee teaches of compressed topology aggregation of a

group of switching nodes and interconnecting links. Lee further teaches in figure 3 and claim 1

and respective portions of the specification of routing between a source node and a destination

node network having nodes connected by links, compression is used on at least one of the links.

Lee teaches in column 5 of performing at least 2 calculations such as Dijkstra and Floyd-

Warshall methodologies for deriving the compressed topology aggregation of figure 3. The

Dijkstra methodology is used to determine shortest paths from a given vertex to all the vertices

and the Floyd-Warshall determines shortest paths from each vertex to every other vertex. Lee

further teaches in column 5 lines 35 to column 6 lines 47 that the method further comprises

choosing a cost or metric function wherein the routing minimizes the cost function as claims.

Lee as disclosed before teaches in column 5 of a routing calculation for a given number of

compressions uses the Dijkstra algorithm and verifies the number of compressions when adding

a node to the routes as claims. Lee in column 5, lines 37-65 and claim 12 of performing two

routing calculations with respect to compressed links and selecting the optimal route between the

source and destination based the two routing calculation described above, but fails to explicitly

disclose that performing at least two routing calculation for a maximum number of compression

is of signal compressions and routing calculations comprising a first routing calculation for a

number of links using signal compression that is less than the maximum number, and a second

routing calculation for the maximum number of links using signal compression using

information obtained from the first routing calculation. Grittins discloses in claims 1-5, 22-30,

figures 3 and 4 and respective portions of the specification of a network having a plurality of

interconnected switching devices and teaches of routing different types of traffic between source

node and destination node in a network having nodes connected by links, wherein at least one

link uses signal compression (compressing voice data via bandwidth managing device that

analyzes the data to be transmitted and provides a level of compression that is dependent on the

type of data being transmitted) and the remaining links do not use signal compression (non-voice

data without compression). Grittins further discloses in figure 3, lines 60-67 that signaling data

is data which is used to control the routing of all traffic send by the user. Grittins further

discloses in column 4, lines 1-62 and in claim 37 where a first communications link connects a

user's site to the main network via a first of the switching devices and a bandwidth manager

provides a data compression that is dependent on the type of data being transmitted and second

communications link connecting a second user's site to the main network via a second of the

switching devices and a respective bandwidth manager for non-voice data traffic type. Grittins

thus, provides multiple calculations for each traffic type with respect to links from source to

destination. Therefore, it would have been obvious to one of ordinary skill in the art to modify

the teachings of Lee to include the teachings of Grittins with respect to calculating different links

providing a compression level dependent on the type of data traffic in order to increase

efficiency and optimize routing form source to destination in addition to saving bandwidth.

Referring to claims 10, 11 and 13, Lee teaches of compressed topology aggregation of a

group of switching nodes and interconnecting links. Lee further teaches in figure 3 and claim 1

and respective portions of the specification of routing between a source node and a destination

node network having nodes connected by links, compression is used on at least one of the links.

Lee teaches in column 5 of performing at least 2 calculations such as Dijkstra and Floyd-

Warshall methodologies for deriving the compressed topology aggregation of figure 3. The

Dijkstra methodology is used to determine shortest paths from a given vertex to all the vertices

and the Floyd-Warshall determines shortest paths from each vertex to every other vertex. Lee

further teaches in column 5 lines 35 to column 6 lines 47 that the method further comprises

choosing a cost or metric function wherein the routing minimizes the cost function as claims.

Lee as disclosed before teaches in column 5 of a routing calculation for a given number of

compressions uses the Dijkstra algorithm and verifies the number of compressions when adding

a node to the routes as claims. Lee in column 5, lines 37-65 and claim 12 of performing two

routing calculations with respect to compressed links and selecting the optimal route between the

source and destination based the two routing calculation described above, but fails to explicitly

disclose performing first routing calculation with links that don not use signal compression and a

second routing calculation on links using signal compression and a third for the number of links

using signal compression obtained form the first and second routing calculations. Grittins

discloses in claims 1-5, 22-30, figures 3 and 4 and respective portions of the specification of a

network having a plurality of interconnected switching devices and teaches of routing different types of traffic between source node and destination node in a network having nodes connected by links, wherein at least one link uses signal compression (compressing voice data via bandwidth managing device that analyzes the data to be transmitted and provides a level of compression that is dependent on the type of data being transmitted) and the remaining links do not use signal compression (non-voice data without compression). Grittins further discloses in figure 3, lines 60-67 that signaling data is data which is used to control the routing of all traffic send by the user. Grittins further discloses in column 4, lines 1-62 and in claim 37 where a first communications link connects a user's site to the main network via a first of the switching devices and a bandwidth manager provides a data compression that is dependent on the type of data being transmitted and second communications link connecting a second user's site to the main network via a second of the switching devices and a respective bandwidth manager for non-voice data traffic type. Grittins thus, provides multiple calculations for each traffic type with respect to links from source to destination. Grittins further discloses in claim 22 and respective portions of the specification of performing a third calculation that uses information obtained from the first and second routing calculations, thus, multiplexing the traffic of the first and second types for transmission over the link at the user's end of the link. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Lee to include the teachings of Grittins with respect to calculating different links providing a compression level dependent on the type of data traffic in order to increase efficiency and optimize routing form source to destination in addition to saving bandwidth.

Referring to claims 3 and 12, Lee teaches in column 5 of performing at least 2

calculations such as Dijkstra and Floyd-Warshall methodologies for deriving the compressed

topology aggregation of figure 3. The Dijkstra methodology is used to determine shortest paths

from a given vertex to all the vertices and the Floyd-Warshall determines shortest paths from

each vertex to every other vertex. Lee discloses in claims 2, 9, and 10 and respective portions of

the specification of a routing calculation for a maximum number of compressions comprises

iteratively processing alternate paths between the pair of vertices to identify an optimal path

there between and testing each optimal path for redundancy with respect to previously

determined optimal path and saving the optimal path for a routing calculation on which signal

compression is used. Thus, disclosing a routing calculation at a node where the number of links

using signal compression from the source node is equal to the maximum number, seeking and

saving for a subsequent routing calculation adjacent links on which compression is used as

claim.

Allowable Subject Matter

3.   Claims 5-9 and 14-16 allowed.

Response to Arguments

4.   Applicant's arguments filed 5/11/04 have been fully considered but they are not

persuasive.

Applicant argues that there is no disclosure of multiple routing calculations based upon

whether a link uses signal compression or does not use signal compression. Applicant also

argues that there is no disclosure in Grittens et al. of a route calculation and route selection based

upon whether the signal links use signal compression or do not use signal compression.

Examiner respectfully disagrees. Examiner redirects Applicant to Lee reference where Lee

clearly teaches in column 5 of performing at least 2 routing calculations such as Dijkstra and

Floyd-Warshall. Lee further discloses in column 5, lines 37-65 and claim 12 of performing two

routing calculations with respect to compressed links and selecting the optimal route between the

source and destination based the two routing calculation. Lee however, does not teach of route

calculation based upon whether the signal links use signal compression or do not use signal

compression. Examiner relies on Grittens disclosure in column 4, lines 1-62, where a first

communications link connects a user's site to the main network via a first of the switching

devices, where a bandwidth manager provides data compression on the link that is dependent on

the type of data being transmitted and second communications link connects a second user's site

to the main network via a second of the switching devices and a respective bandwidth manager

for non-voice data traffic type. Thus, the bandwidth access mangers provides calculation that

take into account whether a link uses signal compression or does not use signal compression

based on the traffic type. The motivation is that it would have been obvious to one of ordinary

skill in the art to modify the teachings of Lee to include the teachings of Grittens with respect to

calculating different links providing a compression level dependent on the type of data traffic in

order to increase efficiency and optimize routing form source to destination in addition to saving

bandwidth. Thus, claims 1-4 and 10-13 stand rejected.

As per the telephone phone interview, with Attorney of Record Paul Wilson on 6/23/04,

the claim language with respect to claims 1 and 10 do not correspond with the figure 1.

Examiner requests Applicant to provide a clarification/amendment which is supported by the

specification with respect to claim 1 of how the second routing calculation uses information

obtained from the first routing calculation in order to select a route between the source and

destination based on the routing calculation or cancel the respective rejected claims in order to

place the application in condition for an allowance.

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any response to this final action should be mailed to:

Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703)305-9051, (for formal communications; please mark "EXPEDITED
PROCEDURE)

Or:

(703)305-5403 (for informal or draft communications, please label "PROPOSED"
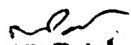or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G Shah whose telephone number is 703-305-5639. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs
June 25, 2004

Ajit Patel
Primary Examiner